

OCCASIONAL NOTES.

A PAPUAN KITE.

THE late Lieutenant Governor of British New Guinea, Sir William Macgregor, enhancing, as usual with him, the value of his Annual Report to the Queensland Government for the year 1897-8 by recording in it much that is of scientific interest, teaches us, among other things ethnological, the construction and purpose of a kite which he found in use at Dobu, one of the islands of the d'Entrecasteaux group on the east coast. Had these Reports the circulation which, in the interest of ethnology and geography, should by all means be given to them, it would be simply an impertinence in anyone to reproduce their author's information on this or any subject, but, unfortunately, they are but little known outside the pale of officialdom. It therefore occurs to the writer that since he has it in his power to make this odd bit of untutored cunning more widely known by distributing, with a few explanatory remarks, a surplus store of the drawings of it which were prepared under his direction for the Report aforesaid, it is almost imperative upon him to take the first opportunity of doing so.

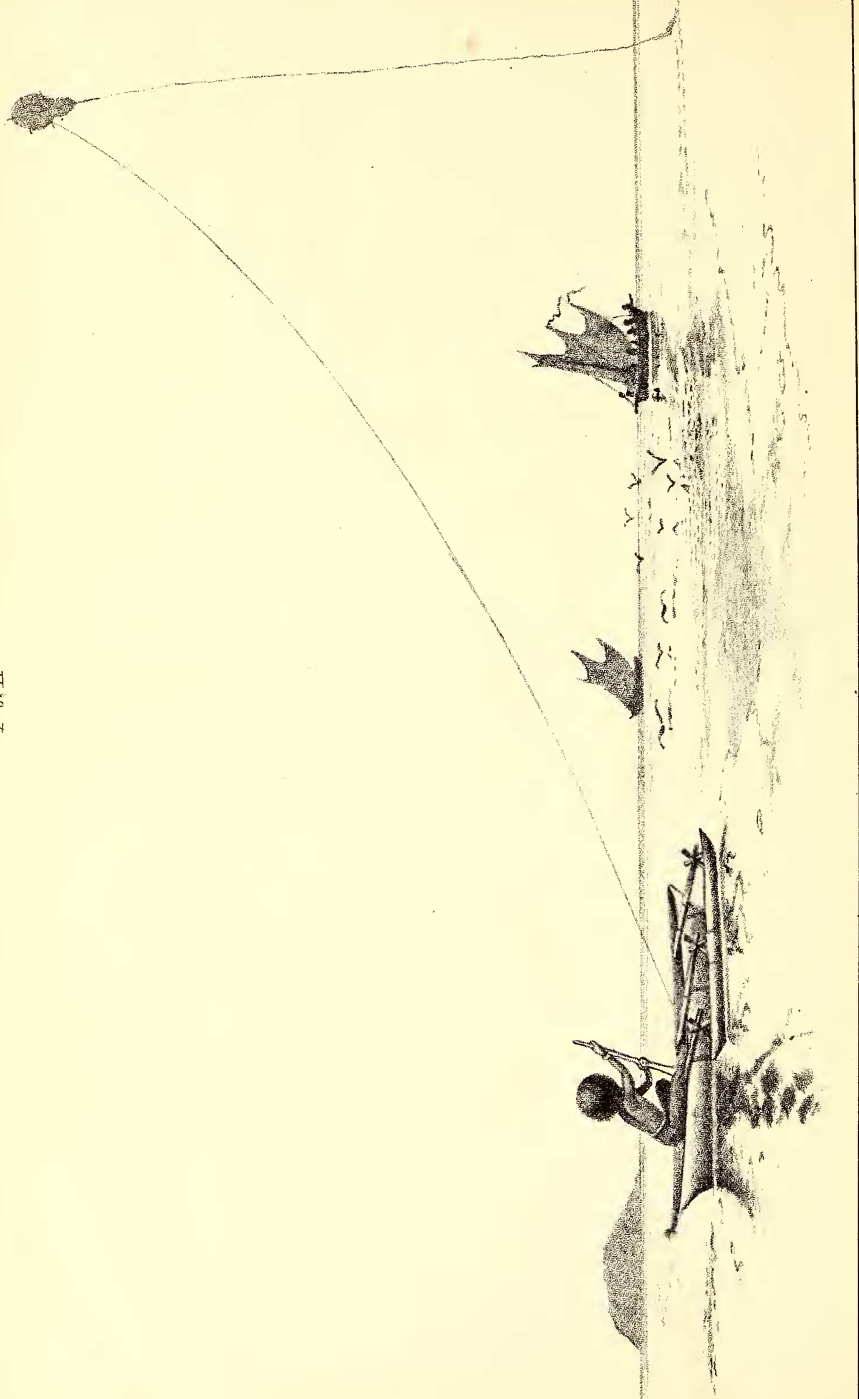
It appears that the voyager among these islands may occasionally see, and not without surprise, a number of canoes dotting the sea, each tenanted by a single native who is apparently intent upon the amusement of flying a little kite over the surface of the water. If his first thought should be the very natural one that he has here met with an instance of the use of one of the toys of his youth among grown-up savages, illustrating the doctrine that the uncivilised adult remains mentally very much on the level of civilised childhood, he will, to his further astonishment, find on inquiry that the Papuan is not as a child flying his kite for amusement, but for the very practical purpose of catching fish. How he manages to catch fish by means of a kite is open to explanation; by what course of "applied science" he was led to find that he could do so is a piece of knowledge which, perhaps, has slipped irrevocably behind the veil of oblivion. We might be content to say that it is done by means of a piece of cobweb attached to the tail of the kite, but the structure of the whole apparatus is of sufficient interest to warrant a fuller description of its parts.

All the kites referred to in Sir W. Macgregor's Report are approximately of the form depicted on Plate 1, and of the size indicated by the scale beside the figure. Each is composed of three large flat leaves of a tree which the Colonial Botanist, Mr. Bailey, is disposed to identify with *Morinda citrifolia*. Its basal and narrower portion consists of a single leaf placed stalk downwards, truncated at the apex, and here overlapped by the apical end of a second leaf, which is in its turn truncated at the base in order to form part of the upper

edge of the kite. The third leaf is split down the middle, and each half is applied point downwards by an overlapping edge to a side of the second leaf to extend the lateral area to be presented to the wind, and, at its base, shorn off to preserve the horizontality of the upper edge, in which respect mainly the general form of the kite differs from that familiar to ourselves. The overlapping edges are "basted" together by passing through both of them at wide intervals, one of the long slender strips split from the leaf of a species of palm for which the natives find various other uses. The rigidity of the whole structure so fashioned is increased by the application of other strips of the same material—one passing down the centre and lashed to the contiguous midribs of the leaves; a pair on each side of and securing between them the upper edge of the fabric; another pair strengthening in a similar manner the mid line of its upper division; a single strip threaded through the leaf at the base of that division; and another across the middle of the lower division, the last being fixed merely by passing it between the midrib and the central longitudinal strip. The lateral edges of the kite are strengthened throughout by a double stitch of twine inserted well within the margin. When complete the kite is provided with five "wings." These are short strips of pandanus leaf, sometimes swallow-tailed at the free end, attached by a piece of twine, from 70 to 80 mm. in length, to each end of the pair of upper cross stretchers and to the top of the middle longitudinal one. The kites vary in length from 560 to 720 mm., and in greatest breadth from 200 to 290 mm. The flight-line is a two-strand fibre seining twine (as a seaman describes it), each strand composed of about 20 fibres, neatly spun, very light and strong, and long enough ("not less than a fourth or even a third of a mile in length," says our authority) to allow the kite to rise to the proper height at the distance desired. This line is tied to the central stretcher at its mid point with a knot within which is included a little roll of leaf (perhaps for luck), and with a loose end left long enough to reach to the bottom of the kite where it is again tied. The rest of the flight-line is, when unemployed, wound round a chunk or flat piece of wood, in the latter case more or less battledore shaped. Instead of a tail of the ordinary length is attached another very long line ("from one to three hundred yards in length") of similar twine; this ends below in a peculiar tassel, and it is by virtue of this tassel that the kite becomes a piscatorial engine of a novel kind.

The araneifauna of New Guinea contains a spider which, like that spoken of by Layard ("Nature," 1879, p. 456) in a note on the origin of the night-cap-like bags of New Caledonia, "produces a very strong web." Neither the spider nor its web, sent for identification, succeeded in reaching Brisbane, but in all probability it is one of the *Nephilas*. It would appear from Sir W. Macgregor's account that the web of this spider is not collected in the same manner as that described by Layard. Plate 1, fig. 2, reproduces a drawing of the implement, made from memory by Sir W. Macgregor, who describes it as consisting of a cleft reed or bamboo, on which "the animal or a number of them is tossed . . . until a double tissue of web about 3 or 4 inches broad and 4 to 6 feet long is

Pl. II



Kite fishing in New Guinea

obtained." Unfortunately, the specimen intended for the British New Guinea collection has failed to reach its destination, but it is evident, from the material we have, that the web becomes densely felted together, and thus fitted for the purpose to which it is put. On examination, it is found that a lock of the felted web, about 120 mm. in length and 10 mm. in thickness, is taken, tied in the middle of its length to the end of the tail-line, its ends brought into contact, and, at some distance from their tips, joined together with twine; a part of the twine is enclosed as a core, round which the rest is wound to form a pendant, hanging either within or below the extremities of the web tassel [Plate 1, fig. a]. The tassel so carefully and uniformly made seems to be at once the bait to allure, and the snare to hold the prey of which the fisherman is in quest. The kite is raised just sufficiently to allow the tassel to reach the surface of the water, see Pl. II.; the fish, attracted by the glint of the web, fixes its teeth in the felt, from which it is unable to dislodge them, is played (as we may suppose) by means of the kite, and (as we hear) is finally lifted into the canoe in a small triangular landing-net, mounted on a forked stick. What kind of fish are the victims of this device, and what weight of fish can be secured without injury to gear apparently so fragile, we are not informed. This clever mode of fishing is also carried on from the shore.

A FURTHER TRACE OF AN EXTINCT LIZARD.

Of the formidable lizard to which on the evidence of a single fossil tooth the name *Varanus dirus* was assigned (Proceedings of the Royal Society of Queensland, Vol. 6, p. 98), no additional knowledge has been gathered from exploration until lately, owing to a long continued deprivation of the means of prosecuting field work of that or any other kind, which has been the lot of this Museum. In the early part of last year, however, it became possible to allow a collector, Mr. Broadbent, to make a brief excursion to his favourite fossil-hunting ground at Chinchilla, where, among the few objects of interest which time permitted him to exhume, he obtained the bone which is the subject of the present note. As will appear from the drawing on Plate III., it comprises almost the whole of a right maxillary, containing three entire teeth and the stumps of five others. In the conformation of the jaw and proportionate size of the teeth *V. dirus* appears to be more closely represented in life by the Papuan species, *P. salvadorii* than by any of the Australian monitors. The three teeth preserved are the third, fourth, and fifth; all the teeth, except, perhaps, the one foremost in the series, seem to have been equal in size, or nearly so, similar in shape, and set in close array with their bases in contact. In length and breadth this maxillary is about twice greater than that of an example of *V. salvadorii*, which measures, in the skeleton, 7 feet in length. With proportionate means of offence, a trunk equal in bulk to that of a crocodile, and the voracity of latter-day "gohanners," *V. dirus* would, to an unarmed man, be a formidable antagonist, and must have been, amongst others, an efficient agent in moderating the superabundant life of its times.
